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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/721,721 | 11/27/2000 | Chee Tian Yeo | AMT2000-003 | 3541 |

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EXAMINER

JONES, JUDSON

ART UNIT PAPER NUMBER

2834

DATE MAILED: 03/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/721,721

Applicant(s)

YEO, CHEE TIAN

Examiner

Judson H Jones

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1 and 17 is/are allowed.
- 6) ☐ Claim(s) 9, 12, 13 and 16 is/are rejected.
- 7) ☐ Claim(s) 2-8, 10, 11, 14, 15 and 18-22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 recites the limitation "metal injection molding" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Claim 9 depends on claim 7, while the metal injection limitation is in claim 8.

Claims 12 and 13 recite the limitation "said injection molding" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Claims 12 and 13 depend on claim 10, while the metal injection limitation is in claim 11.

Claim 16 recites the limitation "said injection molding" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Claim 16 depends on claim 14, while the metal injection limitation is in claim 15.

Claim Objections

Claims 2-6, 9 and 18-22 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 2 and 3 add no additional structural limitations. All claims 2 and 3 do is describe the effect of the structure recited in claim 1. See page 8 line 10 to page 9 line 3 for a discussion of the 4 in 1 embodiments of the invention. Claim 9 adds no additional structural limitations. All claim 9 does is describe the effect of the structure claimed in recited 7. See page 5 line 16 to page 7 line 9 for a discussion of the 3 in 1

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embodiment of the invention. Claims 18-22 add no additional structural limitations. Claims 18-22 describe the effect of the structure recited in claim 17.

Claims 2, 7, 10, 14 and 18 are objected to because of the following informalities: Claims 2 and 18 end with two periods. Claim 7 has no ending punctuation mark. Claims 10 and 14 end with semicolons. Appropriate correction is required.

Allowable Subject Matter

Claims 1 and 17 are allowed.

Claims 8, 11 and 15 are objected to as being dependent upon a rejected base claim.

Claims 7, 8, 10, 11, 14 and 15 would be allowed if the punctuation problems are fixed.

Claims 12, 13 and 16 would be allowed if the antecedent basis problems are fixed.

The following is an examiner's statement of reasons for indicating allowable subject matter: The prior art of record does not disclose or teach a voice coil motor having an arcuate shaped hollow structure formed by metal injection molding including a tapered recess formed in the inside surface of the bottom plate, said tapered recess having side edges to tightly interlock with a flat arcuate shaped permanent magnet having dovetailed edges as recited in claims 1, 7 and 17. The prior art of record does not disclose or teach an interlocking assembly of a voice coil motor comprising an arcuate shaped base member with a molded and tapered recess ingressing from a concave edge and narrowing while extending toward a concave edge, a flat arcuate permanent magnet having dovetail edges and an arcuate shaped cover member having a pair of molded down-reaching columns as recited in claim 10. The prior art of record does not disclose or teach an interlocking assembly of a voice coil motor comprising an arcuate shaped base member with a molded and tapered recess ingressing from a concave edge and narrowing while

extending toward a concave edge with the base including a molded upright column, a flat arcuate permanent magnet having dovetail edges and an arcuate shaped cover member having a molded down-reaching column as recited in claim 14.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pace (cited by Applicant) discloses a metal injection molded arcuate shaped hollow structure but does not disclose a tapered recess on the inside surface of said structure. Ferreira discloses tapered recesses for holding dovetailed permanent magnets in the rotor of a rotary motor. Umehara discloses a molded recess for a permanent magnet in the stator of a voice coil motor. While the elements of the instant invention exist in the prior art, no teaching has been found for combining those references together. Molds for devices having complex shapes are difficult to construct, and therefore it would not have been obvious to make the structure of Pace more complex by adding a tapered recess.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H Jones whose telephone number is 703-308-0115. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on 703-308-1371. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-305-3431 for regular communications and 703-305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

JHJ

March 23, 2002

Thomas M. Dougherty
THOMAS M. DOUGHERTY
PRIMARY EXAMINER
GROUP 2100